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PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Applicant's or agent's file reference AS/PG4597		IMPORTANT NOTIFICATION	
International application No. PCT/EP 03/00558	International filing date (day/month/year) 21.01.2003	Priority date (day/month/year) 22.01.2002	
Applicant GLAXO GROUP LIMITED et al.			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.


4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.



For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Kurzbauer, K Tel. +49 89 2399-6020
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AS/PG4597	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/00558	International filing date (day/month/year) 21.01.2003	Priority date (day/month/year) 22.01.2002
International Patent Classification (IPC) or both national classification and IPC B01F15/02		
Applicant GLAXO GROUP LIMITED et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 		
Date of submission of the demand 31.07.2003	Date of completion of this report 29.12.2003	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Deubler, U Telephone No. +49 89 2399-2923 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/00558

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-18 as originally filed

Claims, Numbers

1-28 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/00558**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1 - 28
	No: Claims	
Inventive step (IS)	Yes: Claims	1 - 28
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1 - 28
	No: Claims	

2. Citations and explanations

see separate sheet

The following documents (D) are referred to in this report :

- D1: WO 00 38811 A (THEOPHILUS ANDREW LEWIS ;GLAXO GROUP LTD (GB); SINGH HARDEV (GB);) 6 July 2000 cited in the application
- D2: PATENT ABSTRACTS OF JAPAN vol. 006, no. 131 (C-114), 17 July 1982 (1982-07-17) & JP 57 056031 A (TOSHIBA CORP), 3 April 1982
- D3: PATENT ABSTRACTS OF JAPAN vol. 017, no. 577 (C-1122), 20 October 1993 & JP 05 168889 A (DAI ICHI HIGH FREQUENCY CO LTD;OTHERS: 01), 2 July 1993
- D4: PATENT ABSTRACTS OF JAPAN vol. 007, no. 285 (C-201), 20 December 1983 & JP 58 163425 A (TOKYO SHIBAURA DENKI KK), 28 September 1983
- D5: US-A-3 749 318 (COTTELL E) 31 July 1973
- D6: GB-A-2 236 958 (HEAT SYSTEMS INC) 24 April 1991
- D7: PATENT ABSTRACTS OF JAPAN vol. 1997, no. 05, 30 May 1997 & JP 09 010666 A (RICOH CO LTD), 14 January 1997
- D8: WO 00 44468 A (SQUIBB BRISTOL MYERS CO) 3 August 2000

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1.) The present invention relates to a process for preparing crystalline particles of substance which comprises mixing in a continuous flow cell in the presence of ultrasonic radiation a flowing solution of the substance in a liquid solvent with a flowing liquid anti-solvent for said substance and collecting the resultant crystalline particles generated.

The invention further relates to an apparatus for preparing crystalline particles of a substance which comprises a first reservoir of said substance dissolved in a liquid solvent, a second reservoir of liquid anti-solvent for said substance, a mixing chamber having first and second inlet ports and an outlet port, means for delivering the contents of the first and second reservoirs to the mixing chamber via the first and second inlet ports respectively at independent controlled flow rate, which first and second inlet ports are oriented such that the contents of the first and second reservoirs are delivered into the mixing chamber, a source of

ultrasonic radiation located in the vicinity of the first inlet and means for collecting particles suspended in the liquid discharge from the mixing chamber at the outlet port.

A process and an apparatus of this type is known from WO-A-00/38811.

The object of the invention is to generate crystalline particles in the low micron range, especially particles of size less than 2 microns.

This object is achieved according to the invention in that the solution and anti-solvent are delivered into the continuous flow cell in parallel contacting streams.

None of the documents cited in the INTERNATIONAL SEARCH REPORT discloses or renders obvious the combination of these features (documents D3 and D4 are not concerned with the generation of crystalline particles)

Therefore, independent claims 1 and 2 meet the requirements of Articles 33(2) and (3) PCT.

- 2.) The dependent claims are related to particular embodiments of the invention and thus meet the requirements of Articles 33(2) and (3) PCT, either.

Additional remarks

- 1.) The application does not satisfy the requirements of Article 6 PCT in the following respect:
- 1.1) Although claim 4 relates to an apparatus, it only contains process-features. Therefore the category of claim 4 is not clear.
 - 1.2) In claim 5 it is not clear which "the flow cell" is meant, as such a flow cell is not mentioned in any of claims 2 to 4, to which claim 5 refers.
 - 1.3) In claim 14 it is not clear what is meant by "X-section" (cross-section ?)
 - 1.4) In claim 16 it is not clear for what protection is sought as all features are already comprised in claims 1 to 15.
 - 1.5) Product-claims 27 and 28 do not contain any specific product-feature. Therefore it is not clear for what protection is sought.
- 2.) It would be appropriate to draft the independent claim 2 in the two-part form as required by Rule 6.3(b) PCT, whereby the features known from the closest prior

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP03/00558

art document (D1) should be placed in the preamble.

The Applicant did not provide reasons why the claim should not be written in the two part-form. Neither did the Applicant clearly indicate in the description which features of the subject-matter of the independent claims are already known from the closest prior art document; see PCT Guidelines PCT/GL/3 III, 2.3a.

- 3.) The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- 4.) The documents D2 to D8 have not been identified in the description nor has the relevant background art disclosed therein been discussed. The requirements of Rule 5.1(a)(ii) PCT are, thus, not fulfilled.
- 5.) The object of the invention (single inventive concept) should have clearly been stated in the description (e.g. "It is the object of the invention to improve ... etc.) and this single object should have completely been achieved by the invention as defined in the independent claims.